Oct. 7, 1958 J. L. SABO 2,854,786

AMUSEMENT DEVICE

Filed July 1, 1955

2 Sheets-Sheet 1

Fig. 1

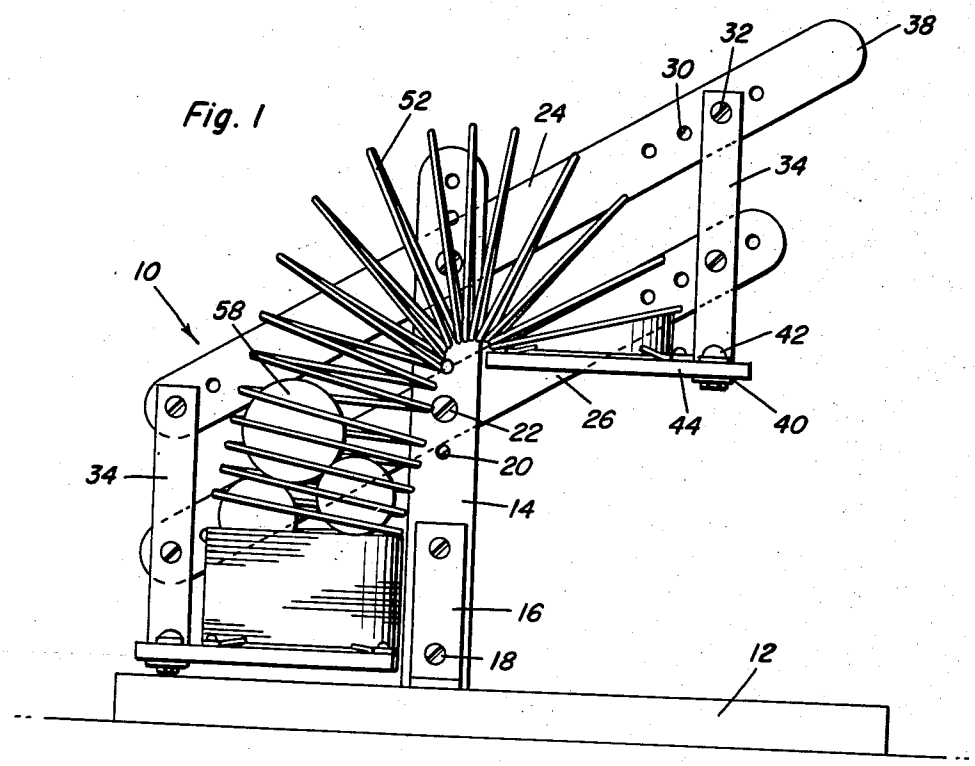


Fig. 2

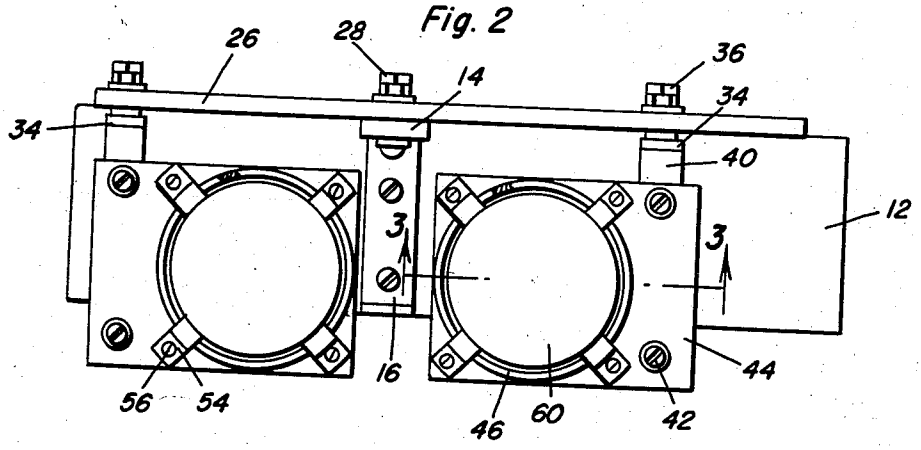
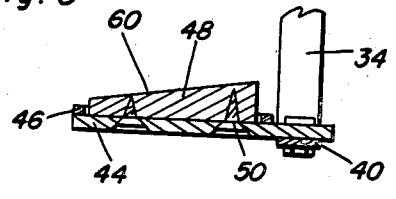


Fig. 3



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Fig. 4

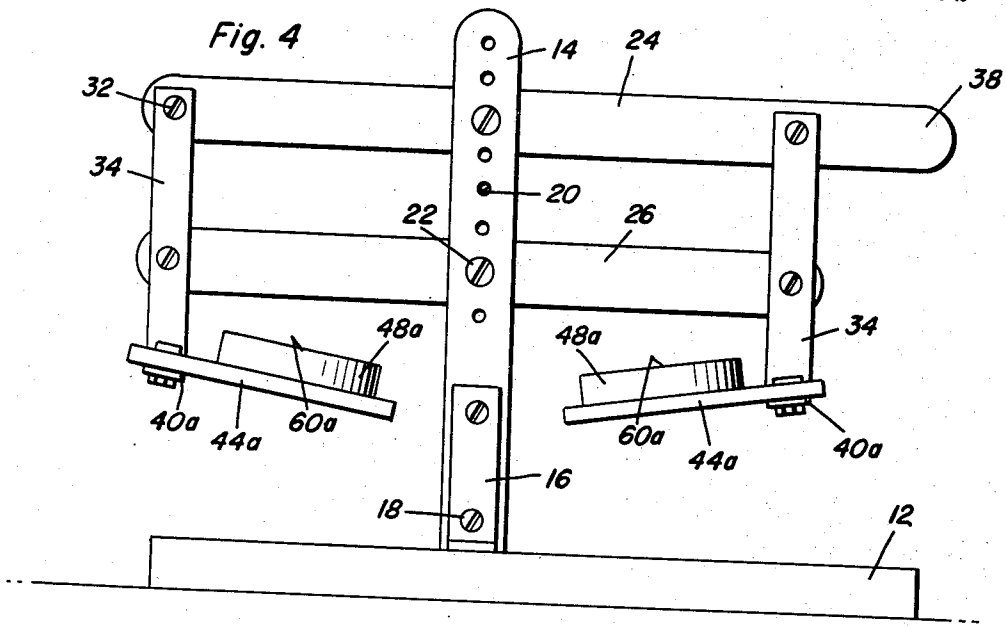


Fig. 5

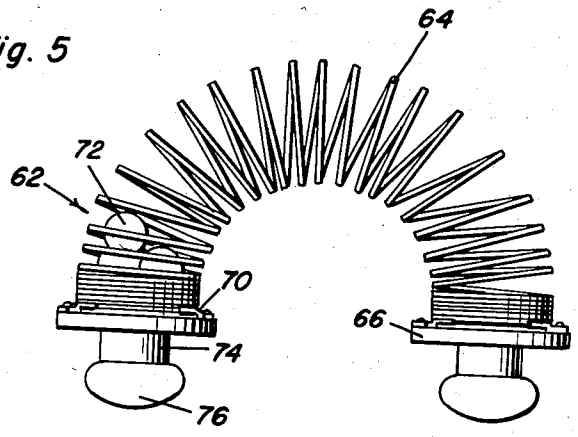
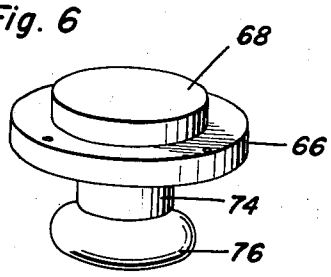


Fig. 6



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United States Patent Office 2,854,786
Patented Oct. 7, 1958

2,854,786

AMUSEMENT DEVICE

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Application July 1, 1955, Serial No. 519,418

6 Claims. (Cl. 46—1)

This invention generally relates to an amusement device and more specifically provides a device employing a highly flexible coil spring having a plurality of lightweight spherical balls therein together with means for transferring the major portion of the spring and the balls from one closure plate in the end of the spring to the other closure plate in the end of the spring by alternating changes in relative elevation of the closure plates.

An object of the present invention is to provide an amusement device including a highly flexible coil spring having a plurality of lightweight hollow balls positioned therein together with a closure plate at each end of the spring wherein by proper manipulation of the closure plates, the major portion of the spring and the balls may be alternated from closure plate to closure plate, thereby forming a highly novel and entertaining amusement device having many adaptations and uses.

Another object of the present invention is to provide an amusement device in accordance with the preceding object in which a novel mounting frame is provided including a pivotal parallelogram linkage for mounting the closure plates wherein the closure plates may be retained in a positive relation for movement in alternating elevational relationship.

Still another object of the present invention is to provide an amusement device in accordance with the preceding objects in which the closure plates are inclined towards each other for assuring movement of the balls away from one plate toward the lower plate when the one plate is raised to its uppermost elevation.

Yet another important object of the present invention is to provide an amusement device including a highly flexible coil spring with a plurality of hollow ball members therein together with a closure plate having a manipulating handle on each end of the spring wherein the major portion of the spring and the balls may be alternatingly transferred from one closure plate to the other by manipulation of the handle members on the closure plates.

Yet another feature of the present invention is to provide an amusement device which is highly entertaining, simple in construction, adaptable for various novel purposes and relatively inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the amusement device of the present invention utilizing the novel frame construction;

Figure 2 is a plan view of the construction of Figure 1 with portions of the spring removed therefrom;

Figure 3 is a detailed sectional view taken substantially upon a plane passing along section line 3—3 of Figure 2 illustrating the details of construction of the extending

portion of the closure plate wherein an inclined surface is provided;

Figure 4 is a side elevational view illustrating a modified form of supporting frame wherein the extending portion is mounted on an inclined bracket for providing an inclined surface for the spherical member;

Figure 5 is a side elevational view illustrating a modified form of the amusement device of the present invention wherein a pair of independent handle members are provided on independent closure plates for more versatility of movement; and

Figure 6 is a perspective view illustrating one of the closure plates with a handle thereon utilized in the construction of Figure 5.

Referring now specifically to the drawings, and especially Figures 1–3, the numeral **10** generally designates the amusement device of the present invention which includes an elongated flat generally rectangular base member **12** having an upstanding standard **14** attached thereto and disposed adjacent one side of the base **12**. The standard **14** is attached by use of a right angular bracket **16** together with suitable screw threaded fasteners **18** wherein the standard **14** is disposed in rigid relationship in spaced relation to each end of the base **12**.

The standard **14** is provided with a plurality of vertically spaced apertures **20** adjacent the upper end thereof for receiving screw threaded fasteners **22** which pivotally support a pair of parallel links **24** and **26** on the standard **14** for pivotal movement about the screw fasteners **22**. The screw fasteners **22** may be provided with a pair of fastening nuts **28** for forming a lock nut to prevent accidental disengagement of the screw fasteners **22**. The links **24** and **26** are pivoted in spaced relation to their ends to the standard **14** and a plurality of apertures **30** are positioned adjacent each free end of the links **24** and **26** for selectively receiving screw threaded fasteners **32** which support a bracket member **34** on each of the links **24** and **26** wherein the brackets **34** are retained in spaced parallel relation as are the links **24** and **26**, thereby forming a pivotal parallelogram supported on the upstanding standard **14**. The screw threaded fasteners **32** are also provided with double lock nuts **36** for retaining assembly of the brackets **34** and one end of the upper link **24** is provided with a longitudinally projecting portion **38** which forms a handle for manipulation of the amusement device **10** of the present invention.

The brackets **34** are each provided with a laterally extending horizontal portion **40** at the lower end thereof which extends in substantially parallel relation to the upper surface of the base **12**. Secured to the offset portion **40** by suitable fastening screws **42** is a closure plate member **44** which also is generally parallel to the base member **12** and moves vertically and stays substantially parallel to the base **12**.

The upper surface of the closure plate **44** is provided with an annular ring member **46** within which is disposed a wedge-shaped cylindrical projecting portion **48** which is secured to the plate **44** by suitable screw threaded fasteners **50**. It will be noted that the wedge-shaped portion **48** extends through the ring member **46** which is the terminal coil ring of a coil spring member **52**. This terminal annular ring **46** is secured to the upper surface of the plate **44** by a plurality of clips **54** secured to the plate **44** by fasteners **56**. Disposed within the confines of the coil spring **52** is a plurality of hollow lightweight spherical ball members **58**. It will be noted that the wedge-shaped member **48** provides an inclined surface **60** which inclined surfaces **60** face each other, whereupon change in the elevational relationship of the plates **44** will tend to move the major portion of the spring **52** onto the lowermost of the plates **44** and the spherical ball

members 58 will also move onto the lower surface 60 since the inclined surface 60 will tend to roll the balls 58 towards the lowermost surface. The spring 52 is constructed of a highly flexible material and is that type of spring generally known as a "Slinky" which is commercially available, or any other highly flexible coil spring.

Figure 4 represents an identical construction except that the brackets 34 are provided with a laterally projecting portion 40*a* which is disposed in inclined relation to the base 12 wherein the closure plate 44*a* is also disposed in inclined relation to the supporting base 12 so that the cylindrical projection 48*a* will be provided with an inclined upper surface 60*a* wherein the device of Figure 4 operates in exactly the same manner as the device of Figure 1.

Referring now specifically to Figures 5 and 6, it will be seen that the numeral 62 designates a modified form of the present invention which includes a highly flexible coil spring 64 identical in construction to the spring 52 that is attached to a pair of freely movable closure plates 66 having a cylindrical projection 68 upstanding therefrom wherein clips 70 secure the ends of the spring 64 to the closure plate 66. A plurality of spherical ball members 72 are disposed within the confines of the spring 64 and a depending handle 74 terminating in a knob 76 is attached to the undersurface of each of the closure plates 66 wherein the elevational relationship between the closure plates 66 may be changed and the upper surfaces of the cylindrical portions 68 may be inclined for moving the major portion of the spring 64 as well as the spherical balls 72 from one end to the other of the spring 64 depending upon the elevational relationship of the closure plates 66.

The present invention provides a highly novel amusement device and may be employed with various adaptations wherein the basic concept of changing the elevational positions of the ends of the coil spring will cause a major portion of the coil spring to be changed from one end of the coil spring towards the other end and articles such as spherical balls will move within the interior of the coil spring, thereby providing an amusing and intriguing device.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An amusement device comprising a highly flexible coil spring, a movable closure on each end of said spring, a plurality of freely movable articles disposed within said spring whereby said articles and the major portion of said spring will transfer from one closure to another by alternately disposing one closure at a higher elevation than the other, said articles being lightweight spherical hollow members, said closures having a portion extending into the spring and forming a surface for engaging said spherical members, said surfaces being inclined inwardly to assure movement of the spherical members during alternation of the closures.

2. An amusement device comprising a highly flexible coil spring, a movable closure on each end of said spring, a plurality of freely movable articles disposed within said spring whereby said articles and the major portion of said spring will transfer from one closure to another by alternately disposing one closure at a higher elevation than the other, said articles being spherical members, said closures having a portion extending into the spring and forming a surface for engaging said spherical members, said closures being mounted on supporting brackets, a base member, a standard on said base member, a pair of links pivotally mounted on said standard, said brackets pivotally interconnecting the free ends of said links for retaining the links in parallel relation, one of said links projecting beyond one of the brackets and forming a handle for raising and lowering the closures in alternating relation for moving the spherical members from closure to closure.

3. The combination of claim 2 wherein each closure includes a wedge-shaped portion projecting into the spring for providing an inwardly inclined surface for urging the spherical members towards the other closure.

4. The combination of claim 2 wherein said closures are mounted in inwardly inclined relation on said brackets for providing inclined surfaces for urging the spherical members from closure to closure.

5. An amusement device comprising a highly flexible coil spring, a closure plate mounted on each end of said spring for movement from a position in the same horizontal plane with the spring being substantially U-shaped to alternate positions on opposite sides of the horizontal plane whereby the major portion of the spring will be automatically disposed on the lower closure plate for forming a downhill path from the upper closure plate to the lower plate, and lightweight articles freely movably disposed within the confines of the coil spring for free movement under the influence of gravity from the upper closure plate to the lower closure plate, the internal diameter of said spring being substantially larger than the largest outside dimension of the movable articles thereby providing free movement of the articles, each of said closure plates having a projection extending into the spring and forming a surface forming means for assuring initial movement of the articles in the downhill path when the orientation of the surface is such to form a continuation of the path.

6. The combination of claim 5 wherein each closure plate is provided with a handle for manual elevation and tilting of the closure plates for orientating the surfaces as continuations of the downhill path.

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